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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,419

09/19/2006

Volker Schadler

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EXAMINER

NEGRELLI, KARA B

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,419	<b>Applicant(s)</b> SCHADLER ET AL.	
	<b>Examiner</b> KARA NEGRELLI	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/19/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**METHOD FOR THE PRODUCTION OF POLYMER FOAMS BASED ON REACTIVE**  
**POLYCONDENSATION RESINS**

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12, 14-18 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Locke et al. (US 3,737,399).

4. Locke et al teach a process for the preparation of foams comprising polymer dispersions of which comprise styrene/butadiene copolymers, and which can further contain methyl methacrylate, ethyl acrylate, or hydroxy ethyl methacrylate (column 2, lines 5-34). The process may further comprise dispersions such as a latex of polystyrene (an aqueous dispersion of polystyrene) (column 2, lines 35-37), surfactants such as fatty acid soaps or salts of monounsaturated acids such as potassium oleate (column 2, lines 54-65), and melamine-formaldehyde resin gelling agent (column 3,

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lines 38-48). The foam is crosslinked by drying using hot air (removal of the aqueous phase at temperatures up to 200°C (column 3, lines 39-42 and lines 66-67). The melamine-formaldehyde resin gelling agent is present in an amount of from 0.05 to 10 parts by weight based on 100 parts by weight dry polymer (column 4, lines 42-44).

Locke et al. further teach an embodiment in which gelation occurs before the composition is subjected to hot air for drying (column 6, lines 15-24 and lines 41-43).

5. It would have been obvious to one of ordinary skill in the art that when a reference does not specify the pressure used in the process, then atmospheric pressure applies.

6. Locke et al. do not expressly teach that the foam of the invention has a pore diameter of not more than 1  $\mu\text{m}$  or that the polymer foam has a porosity of at least 70% by volume. However, in view of the fact that the disclosed process uses substantially identical components and a substantially identical method of obtaining a gel and foam, one of ordinary skill in the art could reasonably believe that the resultant product would have the instantly claimed pore diameter and porosity.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Locke et al (US

9. The melamine-formaldehyde resin gelling agent is present in an amount of from 0.05 to 10 parts by weight based on 100 parts by weight dry polymer (column 4, lines 42-44) (which falls within in the range of instant claim 19). Locke et al. further teach an embodiment in which gelation occurs before the composition is subjected to hot air for drying (column 6, lines 15-24 and lines 41-43).

10. It would have been obvious to one of ordinary skill in the art that when a reference does not specify the pressure used in the process, then atmospheric pressure applies.

11. The temperature at which drying occurs (less than 200°C) and the mixing ratio of melamine formaldehyde resin to the polymer particles both overlap the instantly claimed ranges of claims 19 and 20. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

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12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Locke et al. (US 3,737,399) in view of Reck et al.

13. Locke et al. teach the composition as applied to claim 12 but do not expressly teach the size of the polymer particles in the aqueous polymer dispersion. However, Reck et al. teach aqueous polymer dispersions comprising styrene or esters of acrylic and methacrylic acids (column 4, lines 8 and 16-23) in which the polymer particles have an average diameter of preferably from 150 to 250 nm (column 8, lines 47-51). It would have been obvious for one of ordinary skill in the art to use polymer dispersions which have the particle diameter disclosed by Reck et al. in the composition taught by Locke et al. because Locke does not teach a specific particle size. One of ordinary skill in the art would look to similar aqueous dispersions to determine workable sizes. It would have been obvious that a small particle diameter, such as used by Reck, ensures a more uniform distribution of particles within the dispersion.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA NEGRELLI whose telephone number is (571)270-7338. The examiner can normally be reached on Monday through Friday 8:00 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KARA NEGRELLI/  
Examiner, Art Unit 1796

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796